

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (original) A network system comprising:

a plurality of sub-networks;

an authentication server for authenticating a client in one of the plurality of sub-networks in response to an authentication request of the client when establishing a communication session for packet communication between the terminal of the client and a different sub-network as a client's target;

an address processing unit for executing, after the authentication by the authentication server and on the basis of an instruction from the authentication server, an address processing of packet signals in packet communication between the client's terminal and the sub-network as the client's target.

2. (original) The network access system according to claim 1, wherein:

the authentication request from the client includes data of the sub-network as the client's target.

3. (currently amended) The network access system according to ~~one of claims~~claim 1 and 2, wherein:

the authentication server has a correspondence table provided for each client and showing one or more sub-networks as client's targets and specifies the sub-network as the client's target on the basis of the correspondence table, and an address translation table showing the correspondence

between data specifying the communication session on the packet signal and address data corresponding to the sub-network as the client's target, is set in the address processing unit.

4. (original) The network access system according to claim 3, wherein:

the client's terminal sends out the packet signal by setting the address of the address processing unit as destination address; and

the address processing unit specifies the sub-network as the client's target on the basis of the data specifying the communication session on the packet signal in the address translation table, and translates the destination address of the packet signal to address data corresponding to the specified sub-network.

5. (currently amended) The network access system according to ~~one of claims~~claim 3 and 4, wherein:

the source address is used as the data specifying the communication session on the packet signal.

6. (original) The network access system according to claim 5, wherein:

session discrimination data is set on the packet signal as at least part of the data specifying the communication session.

7. (currently amended) The network access system according to ~~one of claims~~claim 1 to 6, wherein:

the address processing unit receiving a packet signal addressed to the client from the sub-network as the client's target, translates the source address of the packet signal to the own address and sends out resultant packet signal.

8. (currently amended) The network access system according to ~~one of claims~~claim 1 to 7, wherein:

the sub-network has a gateway unit, and the address of the gateway unit is used as the address corresponding to the sub-network.

9. (original) The network access system according to claim 8, wherein:

the gateway unit and the client terminal have a function of tunnel communication with respect to the packet signal having been capsulated by adding a capsulation header describing the address; and

the gateway unit deletes the capsulation header from the packet signal addressed to the gateway unit and feeds the resultant packet signal to the own sub-network.

10. (currently amended) The network access system according to claim 9, wherein:

the gateway unit records, in correspondence to one another, the source address of the packet signal addressed to its own in the capsulation header and the address assigned to the client's terminal in the own network, and when detecting a packet signal with the correspondence address as the destination address, ~~capsulates~~ encapsulates the packet signal by setting the source address in the capsulation header that is made to correspond to the correspondence address as the destination address of the packet signal and also setting the own address as the source address of the packet signal for sending out the packet signal.

11. (currently amended) The network access system according to ~~one of claims~~claim 1 to 10, wherein:

a plurality of the sub-networks are connected to

pluralities of authentication servers and each have a ~~prox~~
proxy authentication server;

the client's terminal executes the request of the client authentication by accessing the ~~prox~~proxy authentication server; and

the ~~prox~~proxy authentication server specifies the authentication server of the sub-network as the client's target on the basis of the authentication request from the client, inquires the specified authentication server about whether the authentication is possible or not, and when the, client is certified by the authentication server allows the client's accessing.

12. (currently amended) The network access system according to ~~one of claims~~claim 6 and 11, wherein:

the authentication server issues session discrimination data specifying the communication session to the terminal of the client certified either directly by it or via the ~~prox~~ authentication server; and

the client's terminal adds the session discrimination data issued from the authentication server to the packet signal.

13. (currently amended) The network access system according to ~~one of claims~~claim 1 to 12, wherein:

the authentication server reports, at the time of the client authentication, the address of the address processing unit to be accessed to the terminal of the pertinent client; and

the client terminal executes packet communication with the sub-network as the client's target via the address processing unit reported from the authentication server.

14. (currently amended) The network access system

according to ~~one of claims~~ claim 1 to 13, wherein:

the sub-network has a gateway unit positioned as the client; and

the gateway unit executes tunnel communication of the capsulated packet signal with the sub-network as the target of the client in the own sub-network, executes, when receiving an authentication request for the communication session establishment from the client in the Own sub-network, the client authentication request to the authentication server in lieu of the client, and uses session discrimination data for specifying the communication session as at least part of the data specifying the communication session on the packet signal.

15. (currently amended) The network access system according to claim 14, wherein:

the server reports, in response to the client authentication request from the gateway unit, the data specifying the address of the sub-network as the client's target to the gateway unit; and

when the gateway unit detects the packet signal addressed to the sub-network as the client's target on the basis of the data reported from the authentication server, it specifies the client from the source addresses of the packet signal, and when it confirms that the specified client has received the authentication for the communication session establishment, it ~~encapsulates~~ encapsulates the packet signal by setting the session discrimination data in part of the encapsulation header and sends out the capsulated packet signal to the address processing unit.

16. (original) A network access system in which an authentication server executes authentication of a client in an open network in response to an authentication request from

the client at the time of the accessing of a department network by the client, and an address processing unit executes, after the authentication of the client by the authentication server and on the basis of an instruction from the authentication server, an address processing of packet signal concerning packet communication between the client and the department network.

17. (new) The network access system according to claim 2, wherein:

the authentication server has a correspondence table provided for each client and showing one or more sub-networks as client's targets and specifies the sub-network as the client's target on the basis of the correspondence table, and an address translation table showing the correspondence between data specifying the communication session on the packet signal and address data corresponding to the sub-network as the client's target, is set in the address processing unit.

18. (new) The network access system according to claim 4, wherein:

the source address is used as the data specifying the communication session on the packet signal.

19. (new) The network access system according to claim 2, wherein:

the address processing unit receiving a packet signal addressed to the client from the sub-network as the client's target, translates the source address of the packet signal to the own address and sends out resultant packet signal.

20. (new) The network access system according to claim 3,
wherein:

the address processing unit receiving a packet signal
addressed to the client from the sub-network as the client's
target, translates the source address of the packet signal to
the own address and sends out resultant packet signal.